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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/811,249	03/26/2004	Christopher J. Clements	25307A	1641
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OWENS CORNING 2790 COLUMBUS ROAD GRANVILLE, OH 43023			EXAMINER WOLLSCHLAGER, JEFFREY MICHAEL	
			ART UNIT 1791	PAPER NUMBER
			MAIL DATE 01/18/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/811,249	CLEMENTS, CHRISTOPHER J.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Jeff Wollschlager	1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 26 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-8,10-16,21-24 and 26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-8,10-16,21-24 and 26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/ are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 26, 2007 has been entered.

### ***Response to Amendment***

Applicant's amendment to the claims filed October 26, 2007 has been entered. Claims 1, 11, 12, 21, and 26 are currently amended. Claims 3, 9, 17-20, and 25 have been canceled. Claim 1, 2, 4-8, 10-16, 21-24 and 26 are pending and under examination.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 11-16 and 26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding amended claim 11, the claim recites melting said sugar. However, in view of dependent claims 13 and 26, it is unclear what is clearly intended by this recitation in claim 11. For example, claim 11 suggests the sugar is melted after it has been applied to the internal walls of the preform mold. However, claim 26, recites the sugar is provided to the mold in a melted form or in solution form. Further, claim 13 recites partially

melting the sugar whereas claim 11 requires melting. Appropriate correction and clarification is required.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4-6, 8-10, 21, 22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knutsson et al. (U.S. Patent 5,766,541) in view Collins (US 2,288,072).

Regarding claim 1, Knutsson et al. teach a method for making preforms from glass fiber strands wherein the glass fiber strands are texturized by separation to form a wool type product (col. 3, lines 50-55) prior to entry into the mold through a texturizing gun (Figure 9). The binder, water as a wetting agent, and glass fibers are fed into the mold (col. 3, lines 36-57), the mold is heated to cure the binder and the glass strands (col. 9, lines 52-67) and the mold is cooled to form the preform (col. 8, lines 25-32). Additionally, U.S. Patent 4,569,471 to Ingemansson et al., which is incorporated by reference into Knutsson et al. at col. 9, lines 8-12 disclose the texturized wool-like fiber may travel through a hose prior to being fed into the mold ('541: col. 12, lines 8-11; '471: Figure 3, element (50)). Further, Knutsson et al. disclose the binder preferably comprises about 2% to about 10% by weight of the preform (col. 4, lines 14-19). Knutsson et al. do not expressly disclose the binder is sugar in powdered or granulated form.

However, Collins discloses a method for making a fibrous product from glass wool fibers wherein a powdered sugar binder is disclosed and the binder is applied and selected in such a

manner as to adjust conditions such as toughness, hardness, rigidity, density, temperature resistance and water-proofness (page 1, col. 1, lines 47-52, col. 2, lines 3-28; page 2, lines 41-63).

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to have employed a powdered/granulated sugar as suggested by Collins as the binder in the method disclosed by Knuttson et al. since Collins suggests that sugar is an art recognized equivalent alternative binder known in the art for glass wool applications.

As to claim 2, the fibers employed by Knuttson et al. are continuous (col. 3, lines 50-58).

As to claim 4, Knuttson et al. disclose feeding the binder and strands simultaneously (col. 8, lines 45-60).

As to claim 5, Knuttson et al. disclose a shape corresponding to a muffler (Figure 2; col. 3, lines 8-22).

As to claim 6, the preform (10) is removed from the mold (22) (Figure 3).

As to claim 8, the mold employed by Knuttson et al. is perforated (col. 4, lines 20-35).

As to claim 9, Knuttson et al. pass heated air through the perforated preform sufficient to cause curing (col. 9, line 52-col. 10, line 5).

As to claim 10, Knuttson et al. pass air through the perforated preform mold for cooling (col. 8, lines 7-16).

Regarding claim 21, Knutsson et al. teach a method for making preforms from glass fiber strands wherein the glass fiber strands are texturized by separation to form a wool type product (col. 3, lines 50-55) prior to entry into the mold through a texturizing gun (Figure 9). The binder, water as a wetting agent, and glass fibers are fed into the mold (col. 3, lines 36-57), the mold is heated to cure the binder and the glass strands (col. 9, lines 52-67) and the mold is cooled to

form the preform (col. 8, lines 25-32). Further, Knuttson et al. disclose the binder preferably comprises about 2% to about 10% by weight of the preform (col. 4, lines 14-19). Knuttson et al. do not expressly disclose sugar as the binder.

As to claim 22, Knuttson et al. disclose feeding the binder and strands simultaneously (col. 8, lines 45-60).

As to claim 24, the fibers employed by Knuttson et al. are continuous (col. 3, lines 50-58).

Claims 7 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knutsson et al. (U.S. Patent 5,766,541) in view Collins (US 2,288,072), as applied to claims 1, 2, 4-6, 8-10, 21, 22 and 24 above, and further in view of Golden et al. (US 5,317,037).

As to claims 7 and 23, the combination teaches the method as set forth above. The combination does not expressly teach the melting point of the powdered sugar. However, Golden et al. provide evidence that sugars known to be suitable as binders, such as sucrose, dextrose, and fructose, have a melting point in the range of 120 °C (248 °F) to 175 °C (347 °F) (col. 2, lines 52-58). The examiner notes that the disclosed melting point of the sugars is well above the lower limit set forth in the claim.

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to have employed a sugar such as sucrose, fructose, or dextrose as the sugar binder in the combination set forth above for the purpose of employing readily available and well-known sugars known to be effective as a binders.

Claims 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chenoweth et al. (US 4,751,134) in view of Kirk (US 6,319,444) and Tyhurst (US 3,210,230) and further in view of Collins (US 2,288,072) and Golden et al. (US 5,317,037).

Regarding claims 11 and 12, Chenoweth et al. teach a method of making a non-woven matrix of mineral (e.g. glass) fibers and synthetic fibers wherein the activation of the binder, with heat, within the matrix is controlled such that only selected fibers are bonded to each other, such as the fibers adjacent to one or both faces of the matrix to facilitate production of a desired product (Abstract; col. 2, lines 1-24 and 30-54; col. 4, lines 18-23 and 63-66; col. 5, lines 32-54; Figure 7) thereby leaving the other fibers unbonded. Additionally, Chenoweth et al. teach that an impermeable film or skin layer may be applied to the surfaces of the matrix/blanket to provide a smooth surface on the product (col. 2, lines 25-28). Chenoweth et al. do not teach employment of continuous glass fibers nor do they provide detailed teaching on how the skin layer is formed.

However, Kirk teaches that in forming products from glass wool fibers, continuous glass fibers provide advantages of improved strength, higher service temperature and lower levels of required binder than discrete length glass fibers and employ a heated mold to shape the product as desired (Figure 2; col. 1, line 23-col. 2, line 34; col. 7, line 56-col. 8, line 4). Additionally, Tyhurst teaches a method of forming a fiber-reinforced article with a skin layer/gel coating wherein a binder is placed on the internal wall of a mold prior to placing glass fibers into the mold (Figure 5; col. 3, lines 4-51).

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to have employed continuous glass fibers as suggested by Kirk in the method disclosed by Chenoweth et al. and to have additionally formed the skin layer/gel coating disclosed by Chenoweth et al. by the method disclosed by Tyhurst for the purpose of

realizing the advantages of continuous glass fibers disclosed by Kirk and to have effectively formed the skin layer with a smooth finish on all exposed surfaces as suggested by Tyhurst.

Chenoweth et al. do not teach the skin layer binder is a sugar as claimed. However, Collins discloses a method for making a fibrous product from glass wool fibers wherein a powdered sugar binder is disclosed and the binder is applied and selected in such a manner as to adjust conditions such as toughness, hardness, rigidity, density, temperature resistance and water-proofness (page 1, col. 1, lines 47-52, col. 2, lines 3-28; page 2, lines 41-63).

Additionally, Golden et al. provide evidence that sugars known to be suitable as binders, such as sucrose, dextrose, and fructose, have a melting point in the range of 120 °C (248 °F) to 175 °C (347 °F) (col. 2, lines 52-58). The examiner notes that the disclosed melting point of the sugars is well above the lower limit set forth in the claim.

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to have employed sugar as the binder for forming the skin layer in the method disclosed by Chenoweth et al. since Collins suggests that sugar is an art recognized equivalent alternative binder known in the art for glass wool applications and Golden et al disclose specific sugars suitable for employment as analogous binders.

As to claim 13, Chenoweth et al. teach activating the binder with heat (col. 4, lines 62-66) and Kirk teach employment of hot air to melt the binder in a mold (col. 7, line 6-col. 8, line 21).

As to claim 14, Kirk teaches heating the mold prior to placing binder into the mold (col. 8, line 1-7).

As to claims 15 and 16, Kirk teaches the fibers are texturized prior to entry into the mold (Abstract; Figure 1). Further, it is noted that the molded product is intrinsically removed from the mold when the process is complete.

Claim 11-16 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chenoweth et al. (US 4,751,134) in view of Kirk (US 6,319,444) and Tyhurst (US 3,210,230) and further in view of Delvaux et al. (US 6,254,810) and Chiu et al. (US 6,800,364).

Regarding claims 11, 12, and 26, Chenoweth et al. teach a method of making a non-woven matrix of mineral (e.g. glass) fibers and synthetic fibers wherein the activation of the binder, with heat, within the matrix is controlled such that only selected fibers are bonded to each other, such as the fibers adjacent to one or both faces of the matrix to facilitate production of a desired product (Abstract; col. 2, lines 1-24 and 30-54; col. 4, lines 18-23 and 63-66; col. 5, lines 32-54; Figure 7) thereby leaving the other fibers unbonded. Additionally, Chenoweth et al. teach that an impermeate film or skin layer may be applied to the surfaces of the matrix/blanket to provide a smooth surface on the product (col. 2, lines 25-28). Chenoweth et al. do not teach employment of continuous glass fibers nor do they provide detailed teaching on how the skin layer is formed.

However, Kirk teaches that in forming products from glass wool fibers, continuous glass fibers provide advantages of improved strength, higher service temperature and lower levels of required binder than discrete length glass fibers and employ a heated mold to shape the product as desired (Figure 2; col. 1, line 23-col. 2, line 34; col. 7, line 56-col. 8, line 4). Additionally, Tyhurst teaches a method of forming a fiber-reinforced article with a skin layer/gel coating wherein a binder is placed on the internal wall of a mold prior to placing glass fibers into the mold (Figure 5; col. 3, lines 4-51).

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to have employed continuous glass fibers as suggested by Kirk in the method disclosed by Chenoweth et al. and to have additionally formed the skin layer/gel

coating disclosed by Chenoweth et al. by the method disclosed by Tyhurst for the purpose of realizing the advantages of continuous glass fibers disclosed by Kirk and to have effectively formed the skin layer with a smooth finish on all exposed surfaces as suggested by Tyhurst.

Chenoweth et al. do not teach the skin layer binder is sugar as claimed. However, Chiu et al. teach employment of a sucrose solution binder (Abstract; col. 4, lines 30-67) and Delvaux et al. (Abstract; col. 3, lines 18-66) teach formation of a strong protective coating for a fabric made of glass fibers wherein the protective coating contains sugar.

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to have employed a sugar solution such as a sucrose solution as suggested by Chiu et al. and Delvaux et al. in the method disclosed by Chenoweth et al. for the purpose as suggested by Delvaux et al. of providing an excellent protective cover for the fabric (Abstract).

As to claim 13, Chenoweth et al. teach activating the binder with heat (col. 4, lines 62-66) and Kirk teach employment of hot air to melt the binder in a mold (col. 7, line 6-col. 8, line 21).

As to claim 14, Kirk teaches heating the mold prior to placing binder into the mold (col. 8, line 1-7).

As to claims 15 and 16, Kirk teaches the fibers are texturized prior to entry into the mold (Abstract; Figure 1). Further, it is noted that the molded product is intrinsically removed from the mold when the process is complete.

Claims 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hetherington (US 4,846,302) in view of Kirk (US 6,319,444) and Oswitch et al. (US 3,812,074) and further in view of Collins (US 2,288,072) and Golden et al. (US 5,317,037).

Regarding claims 11-14, Hetherington teaches a method of forming a muffler wherein a binder hardened outer shell surrounds a soft fibrous core (Abstract; col. 1, lines 15-32). The binder hardened outer shell is formed by bringing the outer portion of the fibrous glass into contact with a binder and molding the fibers into the desired shape (col. 3, lines 21-65; col. 4, lines 40-62). Hetherington does not teach the glass fibers are continuous or that the binder hardened outer shell is formed by placing the binder on internal wall of the preform mold prior to feeding the fibrous glass.

However, Kirk teaches that in forming products from glass wool fibers, continuous glass fibers provide advantages of improved strength, higher service temperature and lower levels of required binder than discrete length glass fibers and employ a heated mold to shape the product as desired (Figure 2; col. 1, line 23-col. 2, line 34; col. 7, line 56-col. 8, line 4). Additionally, Oswitch et al. teach a method of providing a hardened gel coating around the exterior of a fiber glass article by placing the binder, in the form of a pre-fabricated gel coat, on internal wall of the preform mold prior to feeding the fibrous glass into the mold (col. 1, lines 15-col. 2, lines 2; col. 3, line 58-col. 4, line 64).

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to have employed continuous glass fibers as suggested by Kirk in the method disclosed by Hetherington and to have formed the hardened outer shell by the method disclosed by Oswitch et al. for the purpose of realizing the advantages of continuous glass fibers disclosed by Kirk and to have effectively formed the hardened outer shell in an art recognized equivalent alternative method as suggested by Oswitch et al.

Hetherington et al. do not teach the skin layer binder is a sugar as claimed. However, Collins discloses a method for making a fibrous product from glass wool fibers wherein a powdered sugar binder is disclosed and the binder is applied and selected in such a manner as to adjust conditions such as toughness, hardness, rigidity, density, temperature resistance and water-proofness (page 1, col. 1, lines 47-52, col. 2, lines 3-28; page 2, lines 41-63). Additionally, Golden et al. provide evidence that sugars known to be suitable as binders, such as sucrose, dextrose, and fructose, have a melting point in the range of 120 °C (248 °F) to 175 °C (347 °F) (col. 2, lines 52-58). The examiner notes that the disclosed melting point of the sugars is well above the lower limit set forth in the claim.

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to have employed sugar as the binder in the method of Hetherington et al. since Collins suggests that sugar is an art recognized equivalent alternative binder known in the art for glass wool applications and Golden et al disclose specific sugars suitable for employment as analogous binders.

As to claims 15 and 16, Kirk teaches the fibers are texturized prior to entry into the mold (Abstract; Figure 1). Further, it is noted that the molded product is intrinsically removed from the mold when the process is complete.

Claims 11-16 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hetherington (US 4,846,302) in view of Kirk (US 6,319,444) and Oswitch et al. (US 3,812,074) and further in view of Delvaux et al. (US 6,254,810) and Chiu et al. (US 6,800,364).

Regarding claims 11-14 and 26, Hetherington teaches a method of forming a muffler wherein a binder hardened outer shell surrounds a soft fibrous core (Abstract; col. 1, lines 15-32). The binder hardened outer shell is formed by bringing the outer portion of the fibrous glass

into contact with a binder and molding the fibers into the desired shape (col. 3, lines 21-65; col. 4, lines 40-62). Hetherington does not teach the glass fibers are continuous or that the binder hardened outer shell is formed by placing the binder on internal wall of the preform mold prior to feeding the fibrous glass.

However, Kirk teaches that in forming products from glass wool fibers, continuous glass fibers provide advantages of improved strength, higher service temperature and lower levels of required binder than discrete length glass fibers and employ a heated mold to shape the product as desired (Figure 2; col. 1, line 23-col. 2, line 34; col. 7, line 56-col. 8, line 4). Additionally, Oswitch et al. teach a method of providing a hardened gel coating around the exterior of a fiber glass article by placing the binder, in the form of a pre-fabricated gel coat, on internal wall of the preform mold prior to feeding the fibrous glass into the mold (col. 1, lines 15-col. 2, lines 2; col. 3, line 58-col. 4, line 64).

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to have employed continuous glass fibers as suggested by Kirk in the method disclosed by Hetherington and to have formed the hardened outer shell by the method disclosed by Oswitch et al. for the purpose of realizing the advantages of continuous glass fibers disclosed by Kirk and to have effectively formed the hardened outer shell in an art recognized equivalent alternative method as suggested by Oswitch et al.

Hetherington et al. do not teach the binder is sugar as claimed. However, Chiu et al. teach employment of a sucrose solution binder (Abstract; col. 4, lines 30-67) and Delvaux et al. (Abstract; col. 3, lines 18-66) teach formation of a strong protective coating for a fabric made of glass fibers wherein the protective coating contains sugar.

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to have employed a sugar solution such as a sucrose solution

as suggested by Chiu et al. and Delvaux et al. in the method disclosed by Hetherington et al. for the purpose as suggested by Delvaux et al. of providing an excellent protective cover for the fabric (Abstract).

As to claims 15 and 16, Kirk teaches the fibers are texturized prior to entry into the mold (Abstract; Figure 1). Further, it is noted that the molded product is intrinsically removed from the mold when the process is complete.

### ***Response to Arguments***

Applicant's arguments filed October 16, 2007 have been fully considered, but they are not persuasive. Applicant argues that the combination of Knuttson in view of Collins do not teach or suggest a method of wherein the sugar binder is heated to a temperature sufficient to at least partially caramelize the sugar binder. This argument is not persuasive. Initially, the examiner notes that the caramelization temperature is a temperature above the melting temperature (e.g. approximately 110-160 °C as set forth in the attachment A accompanying applicant's remarks). Collins teaching a method of employing sugar as a binder wherein the binder is "pyrolyzed or otherwise treated with heat to set up the binder" (page 2; col. 2, lines 54-56) and sets forth the temperature ranges from "several hundred degrees to 700 °F or 800 °F, according to the degree of pyrolysis desired." Accordingly, the examiner submits that Collins teaches a temperature that "at least partially caramelize[s]" the sugar since the temperature employed by Collins is above the caramelization temperature and even causes pyrolysis if desired.

Applicant further argues that Chenoweth do not teach continuous glass fibers or a mold. The examiner notes that Kirk was combined with Chenoweth to teach continuous glass fibers

and Tyhurst was combined with Chenoweth to provide teaching of how to form a skin layer, a stated goal of Chenoweth. Tyhurst form the skin layer by placing binder on the internal wall of a mold. Accordingly, the examiner submits when the references are taken together as a whole, they suggest the claimed invention.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff Wollschlager whose telephone number is 571-272-8937. The examiner can normally be reached on Monday - Thursday 7:00 - 4:45, alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on 571-272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JW

Jeff Wollschlager  
Examiner  
Art Unit 1791

  
CHRISTINA JOHNSON  
SUPERVISORY PATENT EXAMINER

January 11, 2008